ANNUAL NOTE

ON

CROP EXPERIMENTS IN ASSAM

FOR

1894-95.

By

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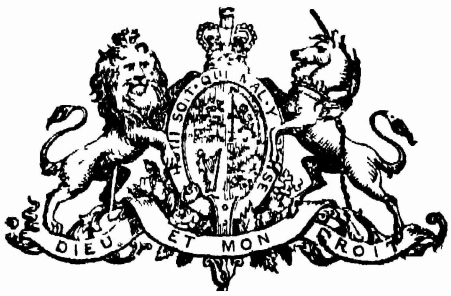

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FROM

RAI SARAT CHANDRA BANARJI, BAHADUR, M.A., B.L.,

Offg. Director, Department of Land Records and Agriculture, Assam,

To

THE SECRETARY TO THE CHIEF COMMISSIONER OF ASSAM.

Shillong, the 15th June 1895.

SIR,

I have the honour to submit the Annual Note on Crop Experiments carried out in Assam during the year 1894-95.

I have the honour to be,

SIR,

Your most obedient Servant,

S. C. BANARJI,

Offg. Director, Department of Land Records and Agriculture, Assam.

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Note on Crop Experiments carried out in Assam during the year 1894-95.

Nature of experiments

Experiments were made during the year under report to ascertain the outturn of—

A.—Rice of various kinds.

B.—Sugarcane.

C.—Miscellaneous crops.

D.—Mustard.

The maund has been taken at 82⅔lbs. and the *bigha* at one-third of an acre. Up to the year 1883-94, the maund was taken at 80lbs.

In order to maintain accuracy in the weighment of crops and to discourage as far as possible weighment by different local measures, arrangements were made to supply experimenting officers with steel-yards for weighing the grain, &c., where necessary. A steel-yard was supplied during the year to each of the following officers: Subdivisional Officer, South Sylhet, Subdivisional Officer, Karimganj, Deputy Commissioner, Khási and Jaintia Hills, Subdivisional Officer, Jowái, Deputy Commissioner, Goálpára, and Deputy Commissioner, Sibságar. Besides, two 30 ft. chains and two optical squares were supplied to the Deputy Commissioner, Khási and Jaintia Hills, for the survey of crop-bearing lands experimented upon. The total cost of supplying these instruments was Rs. 246.

Number of experiments.

2. The following statement shows the number of experiments carried out in each district as compared with the figures of the preceding year:

Number of Experiments.

Crop.	Cáchár.		Sylhet		Goálpára.		Kámrúp.		Darrang.		Nowgong.		Sibságar.		Lakhimpur.		Khási and Jaintia Hills.		Gáro Hills.		Total for the Province.	
	1893-94.	1894-95.	1893-94.	1894-95.	1893-94.	1894-95.	1893-94.	1894-95.	1893-94.	1894-95.	1893-94.	1894-95.	1893-94.	1894-95.	1893-94.	1894-95.	1893-94.	1894-95.	1893-94.	1894-95.	1893-94.	1894-95.
Sáli ..	1	59	50	51	14	22	54	54	21	7	42	32	55	34	45	52	6	34	4	9	292	354
Áhu ..	6	18	6	9	25	40	27	60	6	..	29	81	9	10	14	34	106	90	12	4	240	346
Báo ..	6	14	27	38	..	8	23	25	..	..	8	12	..	..	..	..	..	..	..	..	64	92
Sálbura ..	..	..	..	13	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	13
Cane ..	..	12	10	8	2	2	24	12	10	9	14	22	14	17	36	33	..	..	..	..	116	115
Linseed ..	.	..	9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	9	..
Rapeseed ..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Mung ..	..	..	..	..	..	..	15	10	1	..	5	3	..	..	..	..	..	..	..	..	21	13
Til ..	..	..		..	..	..	11	7	..	..	..	..	..	..	..	..	..	..	..	..	11	7
Cotton ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	9	..	9
Mátikálái ..	..	4	1	..	10	7	26	11	7	4	29	23	27	12	33	32	..	..	..	..	133	93
Mustard	..	8	18	14	13	7	10	9	6	3	23	31	18	7	22	9	..	..	..	..	110	88
Potato ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8	..	..	..	..	..	8
Total ..	13	115	127	135	64	81	190	188	51	23	150	204	123	80	150	163	112	124	16	22	996	1,135

There was an increase in the number of experiments effected during the year distributed amongst almost all the districts, the increase being largest in Cáchár (115 against 13). Sibságar and Darrang, however, show a falling off, only 23 experiments having been made in the latter district, against 51 in 1893-94.

I.—Brahmaputra Valley.

Brahmaputra Valley rice experiments.

3. The three statements below give the results of the experiments made during the year with the three main varieties of rice grown in the districts of the Brahmaputra Valley :

Sáli.

—		Goálpára.		Kámrúp.		Darrang.		Nowgong.		Sibságar.		Lakhimpur.		Total.	
		Bar dhán.	*Láhi dhán.*	*Bar dhán.*	*Láhi dhán.*	*Bar dhán.*	*Láhi dhán.*	*Bar dhán.*	*Láhi dhán.*	*Bar dhán.*	*Láhi dhán.*	*Bar dhán.*	*Láhi dhán.*	*Bar dhán.*	*Láhi dhán.*
Number of experiments.	1893-94 ..	12	2	28	26	21	..	16	20	45	10	42	3	164	67
	1894-95 ..	22	..	33	21	6	1	21	11	31	3	44	8	157	44
Total area cut, in acres.	1893-94 ..	4·00	0·66	7·75	7·50	6·73	..	5·36	7·83	11·28	2·48	7·00	0·50	42·12	18·97
	1894-95 ..	7·16	..	10·67	6·67	1·87	0·25	7·00	3·67	9·25	0·83	14·67	2·67	50·12	14·09
Total crop reaped, in lbs.	1893-94 ..	3,239	1,484	10,376	8,954	10,756	..	8,136	10,076	13,788	3,438	10,521	734	56,816	24,686
	1894-95 ..	13,639	..	18,115	9,559	2,719	555	12,787	5,636	6,844	1,189	25,041	4,076	79,145	21,015
Maximum per acre, in lbs.	1893-94 ..	2,184	2,334	4,080	2,940	2,772	..	2,700	2,430	2,478	2,760	2,220	1,800	4,080	2,940
	1894-95 ..	2,499	..	3,086	2,530	2,370	2,220	3,332	2,839	3,629	2,178	2,592	2,056	3,629	2,839
Minimum per acre, in lbs.	1893-94 ..	780	2,118	486	552	600	..	432	492	570	558	540	1,236	432	492
	1894-95 ..	1,018	..	845	864	1,092	2,220	586	173	432	556	691	1,061	432	173
Average per acre, in lbs.	1893-94 ..	809	2,248	1,339	1,194	1,598	..	1,517	1,286	1,222	1,386	1,503	1,468	1,348	1,301
	1894-95 ..	1,905	..	1,692	1,433	1,985	2,220	1,827	1,536	740	1,432	1,707	1,526	1,579	1,491

Áhu.

—		Goálpára.		Kamrúp.		Darrang.		Nowgong.		Sibságar.		Lakhimpur.		Total.	
		Broadcast.	Transplanted.	Broadcast.	Transplanted.	Broadcast.	Transplanted.	Broadcast.	Transplanted.	Broadcast.	Transplanted.	Broadcast.	Transplanted.	Broadcast.	Transplanted.
Number of experiments	1893-94 ..	20	5	27	..	..	6	29	..	9	..	13	1	98	12
	1894-95 ..	40	..	40	20	..	..	79	2	10	..	34	..	203	2
Total area cut, in acres	1893-94 ..	6·66	1·66	8·16	..	..	1·58	9·40	..	3·00	..	2·16	0·16	29·38	3·40
	1894-95 ..	13·33	..	12·16	5·73	..	..	25·27	0·67	3·33	..	9·50	..	63·59	6·40
Total crop reaped, in lbs.	1893-94 ..	9,692	3,544	8,840	..	..	2,054	11,314	..	3,484	..	3,603	190	36,933	5,788
	1894-95 ..	22,655	..	10,990	6,495	..	..	33,807	815	2,047	..	12,262	..	81,761	7,810
Maximum per acre, in lbs.	1893-94 ..	2,490	2,946	2,112	..	..	2,040	2,190	..	2,172	..	2,916	1,187	2,490	2,946
	1894-95 ..	3,313	..	1,925	1,925	..	..	2,543	1,487	1,500	..	2,777	..	3,313	1,925
Minimum per acre, in lbs.	1893-94 ..	762	1,746	168	..	..	216	240	..	660	..	732	1,187	168	190
	1894-95 ..	864	..	264	259	..	..	309	957	265	..	185	..	195	259
Average per acre, in lbs.	1893-94 ..	1,455	2,135	1,088	..	..	1,300	1,204	..	1,161	..	1,666	1,187	1,257	1,702
	1894-95 ..	1,699	..	904	1,133	..	..	1,338	1,216	615	..	1,291	..	1,286	1,142

		Goálpára.		Kámrúp.		Darrang.		Nowgong.		Sibságar.		Lakhimpur.		Total.	
		Broadcast.	Transplanted.	Broadcast.	Transplanted.	Broadcast.	Transplanted.	Broadcast.	Transplanted.	Broadcast.	Transplanted.	Broadcast.	Transplanted.	Broadcast.	Transplanted.
Number of experiments.	1893-94	....	..	23	....	....	....	8	....	..	..	....	..	31	....
	1894-95	3	..	25	....	....	....	12	....	..	..	....	..	40	....
Total area cut, in acres.	1893-94	....	..	6·91	....	....	....	2·66	....	..	..	....	..	9·57	....
	1894-95	0·57	..	7·67	....	....	....	4·00	....	..	..	....	..	12·24	....
Total crop reaped, in lbs.	1893-94	....	..	5,938	....	....	....	4,684	....	..	..	....	..	10,622	....
	1894-95	827	..	7,858	....	....	....	4,559	....	..	..	....	..	13,244	....
Maximum per acre, in lbs.	1893-94	....	..	1,710	....	....	....	2,700	....	..	..	....	..	2,700	....
	1894-95	1,851	..	2,253	....	....	....	1,605	....	..	..	....	..	2,253	....
Minimum per acre, in lbs.	1893-94	....	..	240	....	....	....	552	....	..	..	....	..	240	....
	1894-95	420	..	290	....	....	....	370	....	..	..	....	..	290	....
Average per acre, in lbs.	1893-94	....	..	860	....	....	....	1,760	....	..	..	....	..	1,110	....
	1894-95	1,451	..	1,024	....	....	....	1,140	....	..	..	....	..	1,082	....

Experiments in the two kinds of *sáli*, viz., *bar dhán* and *láhi dhán*, number 3,797 to the close of the year 1894-95. The total area cut is 1,225·71 acres with a total outturn of 1,946,630lbs., and the average yield per acre amounts to 1,588lbs., or over 19 maunds.

Bar dhán, which grows on a heavy clay soil, is known to give a greater yield than *láhi dhán*, which favours a lighter soil, and the averages brought out by the experiments from year to year show this to be the case, notwithstanding such figures as those furnished by Sibságar during the year, showing an average of only 740lbs. for *bar dhán*, against 1,432lbs. for *láhi dhán*, and the figures shown against Goálpára last year, *viz.*, 809lbs. and 2,248lbs., for *bar dhán* and *láhi dhán*, respectively. The very small number of experiments made and the relatively small area involved in the case of *láhi dhán*, seems to be the explanation of these abnormal results.

Áhu is sometimes transplanted, but is usually sown broadcast. The total number of experiments in *áhu dhán* (both transplanted and broadcast) up to date has been 1,855, the total area cut 625·32 acres, the total crop reaped 836,286lbs., and the average outturn per acre 1,337lbs., or a little over 16 maunds.

Báo dhán is chiefly sown broadcast, but there are considerable areas where transplanted *báo dhán* yields a good harvest, sometimes equalling if not excelling, *sáli dhán*. No experiments were made in any of the districts in the transplanted variety during the past two years. The total number of experiments with the two kinds of *báo dhán* up to date has been 475, the total area cut 155·82 acres, and the total crop reaped 194,591 lbs., the average outturn per acre is 1,248lbs., or a little over 15 maunds.

4. The following statement gives details as to the rice experiments made in Sylhet during the two years 1893-94 and 1894-95:

Sylhet rice experiments.

	Lowland *ús.*			Higtland *ús.*						*Murdli.*			*Sáli.*			Lowland *Áman.*			Highland *Áman.*						*Katerid.*			*Saibera.*		
				Transplanted.			Broadcast.												Transplanted.			Broadcast.								
	In 1893-94.	In 1894-95.	Total of seven years ending 1894-95.	In 1893-94.	In 1894-95.	Total of seven years ending 1894-95.	In 1893-94.	In 1894-95.	Total of seven years ending 1894-95.	In 1893-94.	In 1894-95.	Total of seven years ending 1894-95.	In 1893-94.	In 1894-95.	Total of twelve years ending 1894-95.	In 1893-94.	In 1894-95.	Total of seven years ending 1894-95.	In 1893-94.	In 1894-95.	Total of seven years ending 1894-95.	In 1893-94.	In 1894-95.	Total of seven years ending 1894-95.	In 1893-94.	In 1894-95.	Total of seven years ending 1894-95.	In 1893-94.	In 1894-95.	Total of twelve years ending 1894-95.
Number of experiments	2	4	20	4	1	33	..	4	56	..	..	10	50	51	446	12	11	133	4	8	25	8	16	116	3	3	29	..	13	223
Total area cut, in acres	0·50	0·78	8·71	1·00	0·26	8·55	..	0·98	13·34	..	..	2·56	10·91	13·62	115·02	2·75	3·05	37·45	0·66	2·37	5·77	1·73	4·32	32·81	0·75	0·67	7·75	..	3·59	63·92
Total crop reaped, in lbs.	354	1,547	10,733	994	607	11,562	..	602	13,630	.	..	2,825	19,963	31,482	169,117	3,840	4,028	48,646	714	3,579	8,829	1,780	6,254	50,508	912	1,146	11,559	..	7,045	103,860
Maximum per acre, " . ..	1,000	2,455	3,218	1,440	2,234	2,432	..	802	3,786	..	..	2,152	4,480	4,986	4,986	1,920	1,944	2,668	2,436	2,468	2,468	7,808	2,216	7,808	1,840	2,900	2,900	..	3,017	4,363
Minimum " "	416	1,705	360	720	2,224	480	..	401	204	..	..	420	250	150	159	480	617	360	680	477	477	350	750	198	808	1,071	808	..	1,474	240
Average " " .. -	708	1,983	1,232	994	2,234	1,352	..	614	1,021	..	..	1,104	1,829	2,311	1,470	1,396	1,227	1,298	1,081	1,510	1,530	1,028	1,447	1,539	1,216	1,710	1,491	..	2,012	1,624

Three hundred and twenty-six experiments with early rice (*áus* and *muráli*) have up to date been made in Sylhet, the total area being 85·06 acres, the total crop reaped 97,146lbs., and the average outturn per acre 1,14[illegible], or a little less than 14 maunds.

Altogether up to date there have been 590 experiments in highland and lowland *áman* and *kátárá* varieties taken together. The area cut is 159·45 acres, the crop reaped 239,304lbs., and the average outturn 1,500lbs., or a little over 18 maunds per acre.

In *sáil* the total number of experiments made up to date is 446, the area cut being 115·02 acres, crop reaped 169,117lbs., and the average outturn 1,470lbs., or a little below 18 maunds.

III.—CÁCHÁR.

5. The results of experiments made in the principal varieties of rice known in Cáchár, are given in the following statement :

Cáchár rice experiments.

	Dumái.			*Muráli.*				*Ásrá.*			*Sail*		
					1894-95.								
	1893-94.	1894-95.	Total of seven years ending 1894-95.	1893-94	Broadcast.	Transplanted	Total of seven years ending 1894-95.	1893-94.	1894-95.	Total of seven years ending 1894-95.	1893-94	1894-95.	Total of twelve years ending 1894-95.
Number of experiments ..	2	3	18	4	10	5	46	6	14	31	1	59	205
Total area cut, in acres ..	0·66	1·00	5·17	0·96	2·68	1·51	13·01	1·54	4·67	9·81	4·00	19·66	61·13
Total crop reaped, in lbs. ..	724	796	5,198	974	4,683	1,813	16,609	1,438	7,423	13,033	7,680	31,425	100,342
Maximum per acre „ ..	1,302	1,476	1,560	1,240	2,877	1,512	2,877	1,843	2,511	2,511	1,920	2,535	3,200
Minimum „ „ ..	870	402	402	730	975	924	451	702	819	606	1,920	618	464
Average „ „ ..	1,097	790	1,005	1,014	1,750	1,201	1,276	933	1,589	1,328	1,920	1,599	1,641

The total number of experiments made up to date with *dumái* and *muráli* is 126, the total area cut being 33·68 acres, total crop reaped 41,846lbs., and the average outturn per acre 1,242lbs., or a little over 15 maunds.

Thirty-one experiments with *ásrá* have up to date been made, the total area cut being 9·81 acres, total crop reaped 13,033lbs., and the average outturn per acre is 1,328lbs., or a little over 16 maunds.

Experiments in *sáil* up to the close of the year 1894-95 number 205. The total area cut is 61·13 acres with a total outturn of 100,342lbs., and the average yield per acre amounts to 1,641lbs., or about 20 maunds.

It is interesting to compare the yield of the three chief varieties of *dhán* in the Brahmaputra Valley with the corresponding varieties in Sylhet and Cáchár, *sáli dhán* in the former standing for *sáil* in the latter, *báo* for *áman* and *ásrá*, and *dumái* and *muráli* for *áus*.

Varieties of *dhán*.	Average yield per acre in lbs. for the year 1894-95.		
	Brahmaputra Valley.	Sylhet.	Cáchár.
Sáli or *Sáil*	1,560	2,311	1,599
Báo, *áman*, and *ásrá*	1,082	1,423	1,589
Áus, *dumái*, and *muráli*	1,272	1,364	1,406

IV.—Hill Rice Experiments.

6. The statements below show the results of the rice experiments made in the Khási and Jaintia, and Gáro Hills districts during the year under report :

Hill rice experiments.

Khási and Jaintia Hills.

—	Upland rice			Lowland rice.		
	1893-94.	1894 95.	Total (13 years) ending 1894-95.	1893-94.	1894-95.	Total (13 years) ending 1894-95.
Number of experiments	106	90	587	6	34	661
Total area cut, in acres	26·50	30·00	154·30	1·50	11·33	169 01
Total crop reaped, in lbs.	14,562	28,858	117,248	1,520	6,688	155,984
Maximum per acre, „	1,120	2,129	2,264	1,800	1,481	3,400
Minimum „ „	240	370	40	560	247	192
Average „ „	549	962	760	1,013	590	923

Gáro Hills.

—	*Ásu.*			*Sáli.*		
	1893-94.	1894-95.	Total (13 years), ending 1894-95.	1893-94.	1894-95.	Total (13 years), ending 1894-95.
Number of experiments	12	4	97	4	9	25
Total area cut, in acres	4·00	1·33	31·13	1·33	3·00	8·31
Total crop reaped, in lbs.	4,710	2,495	29,627	2,120	4,011	12,599
Maximum per acre, „	2,460	2,480	2,480	2,010	1,685	2,730
Minimum „ „	300	1,222	160	1,290	962	738
Average „ „	1,177	1,876	952	1,594	1,337	1,516

7 The statement below [illegible] the results of experiments made by tahsildars and officers Experiments by superior officers [illegible] above that rank :

B.—SUGARCANE.

District.	Number of experiments.		Total area, in acres.		Total weight of cane, in lbs.		Total weight of juice, in lbs.		Total weight of *gur*, in lbs.		Weight of *gur* per acre, in lbs.		Pounds of juice per 100lbs. of cane.		Pounds of *gur* per 100lbs. of cane.		Pounds of *gur* per 100lbs. of juice.	
	1893-94.	1894-95.	1893-94.	1894-95.	1893-94.	1894-95.	1893-94.	1894-95.	1893-94.	1894-95	1893-94.	1894-95.	1893-94.	1894-95.	1893-94.	1894-95.	1893-94	1894-95
Cachár	..	1	..	0·11	..	2,514	..	1,285	..	179	..	1,627	.	51·11	..	7·12	..	13·93
Sylhet	1	3	0·005	0·14	350	3,950	156	2,277	22	306	4,400	2,186	44·57	57·64	6·28	7·74	14·10	13·43
Total Surma Valley	1	4	0·005	0·25	350	6,464	156	3,562	22	485	4,400	1,940	44·57	55·10	6 28	7·50	14·10	13·61
Kámrup	18	12	2·26	1·55	42,222	53,773	15,400	17,216	2,156	4,435	954	2,861	36·38	32·01	5 09	8·24	14·00	25·76
Darrang	5	9	0·30	0·37	4,762	7,364	2,670	3,737	446	660	1,486	1,783	56·07	50·75	9·37	8·96	16·70	17·66
Nowgong	2	3	0·33	0·33	5,988	7,200	2,812	3,065	120	349	363	1,057	46·96	42·56	2·00	4·85	4 26	11·38
Sibságar	4	1	0·08	0·06	1,290	1 100	920	961	224	123	2,800	1,537	71·32	87 36	17·36	11·18	24·26	12·79
Lakhimpur	..	2	..	0·13	..	2,746	..	1,423	..	247	..	1,900	..	51·82	..	8·99	..	17·35
Total Brahmaputra Valley	29	27	2 97	2·44	54,362	72,183	21,802	26,402	2,946	5,814	992	2,382	40·10	36·57	5·42	8·05	13·51	22·02
Total for the Province . ..	30	31	2·975	2·69	54,712	78,647	21,958	29,964	2,968	6,299	998	2,341	40·13	33·19	5·42	8·00	13·51	21·02
Total for 1892-93	13		1·37		34,180		13,148		2,842		1,709		38·47		6·85		17·81	
„ 1891-92	6		1·06		6,490		3,564		730		688		54·91		11·42		20·48	
„ 1890-91	8		0·57		10,486		5,711		891		1,563		54·46		8 49		15·60	
„ 1889-90	30		2·45		45,789		21,691		2,611		1,065		47·37		5·70		12·03	
„ 1888-89	24		3·64		52,623		27,204		4,472		1,228		51·69		8·49		16·43	
„ 1887-88	13		2·26		59,946		32,504		5,782		2,450		54·22		9·65		17·79	
„ 1886-87	24		4·97		98,654		51,158		6,594		1,326		51·85		6·68		12·88	
„ 1885-86	15		2·37		60,419		28,013		4,611		1,962		46·36		7·63		16·46	
„ 1884-85	16		1·07		28,891		12,310		2,529		2,350		42·60		8·76		20·50	
„ 1883-84	20		....		96,373		38,111		7,889		....		39·50		8·18		20·70	
	230		25·505		6,27,210		2,85,336		47,718		1,561		45·49		7·60		16·72	

8. The following statement gives the details of experiments made by mauzádárs and subordinate police officers :

Mauzádárs' experiments.

District.	Number of experiments.		Total area, in acres.		Total weight of cane, in lbs.		Total weight of juice, in lbs.		Total weight of *gur*, in lbs.		Weight of *gur* per acre, in lbs.		Pounds of juice per 100lbs of cane.		Pounds of *gur* per 100lbs. of cane.		Pounds of *gur* per 100lbs of juice.	
	1893-94.	1894-95.	1893-94.	1894-95.	1893-94.	1894-95.	1893-94.	1894-95	1893-94.	1894-95.	1893-94.	1894-95.	1893-94.	1894-95.	1893-94.	1894-95.	1893-94.	1894 95.
Cáchár	..	11	..	0·73	..	9,448	..	5,789	..	893	..	1,223	..	61·27	..	9·45	..	15·42
Sylhet . ..	15	5	2·67	0·33	25,326	23,278	14,560	13,094	2,492	1,934	933	5,860	57·49	56·25	9·83	8·30	17·11	14·77
Total Surma Valley ..	15	16	2·67	1·06	25,326	32,726	14,560	18,883	2,492	2,827	933	2,667	57·49	57·70	9·83	8·64	17·11	14·44
Goálpára	2	2	0·25	0·28	4,516	6,140	2,234	3,370	490	786	1,960	2,807	49·46	54·88	10·85	12·80	21·93	23·32
Kamrúp	6	..	0·40	..	3,546	.	1,214	..	304	..	760	..	34·23	..	8·58	..	25·04	..
Darrang	5	..	0·43	..	5,358	..	2,384	..	414	..	963	..	44·59	..	7·73	..	15·75	..
Nowgong	12	19	1·75	1·40	29,448	14,667	14,110	7,755	1,084	1,069	619	763	47·91	52·87	3·68	7·28	7·67	13·78
Sibságar	10	16	1·08	0·86	16,794	24,459	7,932	13,063	1,194	1,502	1,105	1,767	47·23	53·40	7·11	6·14	15·05	11·49
Lakhimpur	36	31	1·20	1·07	17,707	33,023	9,890	17,576	2,579	4,077	2,149	3,810	55·85	53·22	14·56	12·34	26·08	23·19
Total Brahmaputra Valley .	71	68	5·11	3·60	77,369	78,289	37,764	41,764	6,065	7,434	1,186	2,065	48·81	53·34	7·84	9·45	16·06	17·80
Total for the province ..	86	84	7·78	4·66	102,695	111,015	52,324	60,647	8,557	10,261	1,10	2,201	50·95	54·62	8·33	9·24	16·35	16·91
Total for 1892-93 ..		79		4·95		86,816		41,976		8,370		1,691		48·35		9·64		19·94
,, 1891-92 ..		89		9·93		134,270		68,500		12,734		1,282		51·01		9·48		18·59
,, 1890-91 ..		113		8·75		154,247		75,891		13,709		1,566		49·20		8·58		18·06
,, 1889-90 ..		101		11·73		182,400		84,873		14,014		1,194		46·53		7·68		16·51
,, 1888-89 ..		126		11·83		193,057		93,272		16,787		1,419		48·31		8·69		17·99
,, 1887-88 ..		135		18·90		286,466		139,159		24,717		1,307		48·58		8·60		17·80
,, 1886-87 ..		104		19·03		311,112		157,705		27,843		1,463		50·69		8·94		17·65
,, 1885-86 ..		78		13·68		310,157		127,636		21,548		1,575		41·15		6·95		16·88
,, 1884-85 ..		135		19·52		426,957		194,428		33,172		1,699		45·54		7·70		17·09
,, 1883-84 ..		60		..		113,956		59,648		11,081		..		51·81		9·70		17·00
		1,190		130·76		2,413,178		1,155,459		202,793		1,466		47·88		8·40		17·55

Net results.

9. The net result of all experiments made up to date with sugarcane is given below :

(*a*) From superior officers' experiments—

(1) The weight of *gur* (molasses) per acre is 1,561lbs.

(2) Cane yields 45·49 per cent. of its weight of juice and 7·60 of its weight of *gur* (molasses).

(3) The juice yields 16·72 per cent. of its weight of *gur* (molasses).

(*b*) From inferior officers' experiments—

(1) The weight of *gur* (molasses) per acre is 1,466lbs.

(2) Cane yields 47·88 per cent. of its weight of juice and 8·40 per cent. of its weight of *gur* (molasses).

(3) The juice yields 17·55 per cent. of its weight of *gur* (molasses).

(*c*) From all experiments combined—

(1) The weight of *gur* (molasses) per acre is 1,481lbs.

(2) Cane yields 47·38 per cent. of its weight of juice and 8·23 per cent. of its weight of *gur* (molasses).

(3) The juice yields 17·38 per cent. of its weight of *gur* (molasses).

As some misunderstanding seemed to exist as to the exact area to be experimented upon in the case of sugarcane, instructions have recently been issued to the effect that in no case should an experiment with sugarcane be carried out over an area of less than one-fifth of a Bengali *bigha* in extent, or more than half a *bigha*. This rule should prevent extraordinary results like that reported last year from Sylhet, where the only experiment made by a superior officer during the year on an area of ·005 of an acre gave the outturn as 4,400lbs. of *gur* per acre—a figure nearly double the highest average attained during any of the ten previous years.

C.—Miscellaneous Crops.

10. The following statement [illegible] the result of the experiments made up to date with *mô*[illegible] (phaseolus mungo *var.* radiatus), *mung* (phaseolus mungo), [illegible], *til* (sesamum), cotton, and potato:

| | *Mûtkûlâi* (phaseolus mungo var. radiatus). | | |

Of miscellaneous crops, experiments in *mádi* [illegible] olus mungo *var.* radiat us), the pulse in common use among the people, especially [illegible] Brahmaputra Valley, were made in all the plains districts except Sylhet, and give an [illegible] to date of 456lbs. per acre. *Mung* (phaseolus mungo), another pulse in common use, [illegible] an average of 361lbs. The experiments have, however, been confined to Kámrúp, Darrang, [illegible] Nowgong during the past two years.

Rape seed experiments have been confined to Sylhet. It must be noted, however, that what is described as rape is only an inferior kind of radi-h or *mulá*. It is doubtful if it should be translated as rape. It is known as "*dherua*" in the Brahmaputra Valley, and is sometimes grown for its seed, from which an inferior kind of oil is expressed. It will grow on lands too poor for mustard, and requires less preparation of the soil. It does not develop much of a root, but the stalk and leaves are used as a kitchen vegetable. *Til* (sesamum) gives an average of 280lbs per acre. Cotton experiments are almost solely confined to the Gáro Hills, and give an average so far of 257lbs. Potatoes show only five experiments up to date made in the two districts of Darrang and Lakhimpur, and give an average of 3,575lbs. to the acre. It would be instructive to compare this with the yield in the Khási Hills, but apparently no experiments have ever been made there.

D.—MUSTARD.

11. The statement below gives the results of the experiments in mustard seed carried out during each of the two years 1893-94 and 1894-95:

Mustard experiments.

Experiments.	Cachar.		Sylhet.		Total Surma Valley.		Goalpara.		Kamrup.		Darrang.		Nowgong		Sibsagar.		Lakhimpur.		Total Brahmaputra Valley.		Total for the Province		Total for the Province up to the end of	
	1893-94.	1894-95.	1893-94.	1894-95.	1893-94.	1894-95.	1893-94.	1894-95.	1893-94.	1894-95.	1893-94.	1894-95.	1893-94.	1894-95.	1893-94.	1894-95.	1893-94.	1894-95.	1893-94.	1894-95.	1893-94.	1894-95.	1893-94.	1894-95.
Number of experiments ...	...	8	18	14	18	22	13	7	10	9	6	3	23	31	18	7	22	9	92	66	110	88	1,860	1,948
Total area experimented upon, in acres ..	.	2·67	3·53	2·30	3·55	5·97	3·32	2·33	2·75	2·67	2·00	1·00	7·66	10·33	5·84	1·48	3·67	3·00	25·73	20·81	29·20	26·78	627·11	653·30
Total crop gathered, in lbs.	.	700	1,978	1,548	1,878	2,249	2,302	987	1,380	1,226	1,708	576	5,496	5,784	1,896	781	3,496	2,653	16,476	11,987	18,354	14,236	314,183	339,419
Maximum per acre, in lbs.	...	414	1,680	1,132	1,680	1,133	1,320	574	726	1,573	1,950	802	1,279	1,320	1,006	1,160	1,896	1,151	1,950	1,573	1,960	1,573	2,100	2,100
Minimum per acre, in lbs.	.	153	40	204	40	123	192	271	234	21	504	358	216	125	60	185	252	463	60	21	40	21	30	21
Average per acre, in lbs.	.	264	529	467	529	377	633	424	502	459	853	576	717	560	325	514	953	884	639	576	626	532	501	502

Mustard seed ... icles of export from the Brahmaputra Valley, and ... a large number of experi... ...ally in all the districts of the valley. The total number of experiments to ...-95 is 1,671.* Cachar, where the cultivation is insignificant, shows a few ex... (eight) for the first time during the year under report, and the average yield is given a... per acre, which is much below the yield in any of the districts of the Brahmaputra Valle... it ranges from 300 to 800lbs. roughly, the average for the valley up to date being 525lbs.

GENERAL REMARKS.

Rejected experiments.

12. Following the principles laid down in paragraph 26 of the Crop Note of 1889-90, a large number of experiments were rejected, because the area experimented on was over one *bigha* in the case of rice, mustard, or miscellaneous crops, or over half a *bigha* in the case of sugarcane. Experiments, which appeared impossibly above or impossibly below the average, have also been rejected. The following statement shows the number of rejected experiments in eachdistrict during the years 1893-94 and 1894-95:

District.	Rice.				Cane.				Mustard.				Miscellaneous crops.			
	Number of rejected experiments		Area of rejected experiments, in acres.		Number of rejected experiments.		Area of rejected experiments, in acres		Number of rejected experiments.		Area of rejected experiments, in acres.		Number of rejected experiments.		Area of rejected experiments, in acres.	
	1893-94.	1894-95.	1893-94	1894-95.	1893-94.	1894-95.	1893-94.	1894-95.	1893-94.	1894-95.	1893-94	1894-95.	1893-94.	1894-95.	1893-94.	1894-95.
Cáchár	..	1	..	0·34	..	..	..	..	..	..	..	..	..	..	..	..
Sylhet	..	4	.	1·50	..	..	..	..	..	..	..	..	..	1	..	0·33
Goálpára	4	3	1·50	2·00	3	..	1·00	..	1	3	0·50	1·83	2	1	1 25	1·16
Kámrúp	1	2	0·66	1 33	..	.	..	..	3	..	0·20	..	.	..	..	..
Darrang	..	3	..	1·00	..	..	..	..	..	.	..	..	..	..	..	..
Nowgong	8	10	3·33	3·33	..	4	..	1·33	..	..	..	..	..	..	..	..
Sibságar	1	9	0·66	3·18	1	..	0 33	..	..	..	..	..	..	..	..	..
Total	14	32	6·15	12·68	4	4	1 33	1 33	4	3	0·70	1 83	2	2	1 25	1 49

Experimenting officers.

13. The names of superior officers who conducted experiments are given in the statement below:

Name.	Rice.	Cane.	Mustard	Miscellaneous crops.	Total.
G. Balthasar, Esq., Superintendent, Silchár Jail, Cáchár... ...	1	...	...	...	1
Babu Dakshiná Charan Sen, Sub-Deputy Collector, Cachár ...	2	1	...	...	3
„ Pradyumna Charan Das, Tahsildár, Cáchár	6	...	...	...	6
„ Harish Chandra Sen, Tahsildár, Cachár	6	...	...	...	6
F. G. Henniker, Esq, Subdivisional Officer, Maulvi Bázár, Sylhet ...	2	...	...	...	2
A. G. Hallifax, Esq., Subdivisional Officer, Karimganj, Sylhet ...	3	...	...	...	3
Babu Ráj Mohan De, Subdivisional Officer, Habiganj, Sylhet ...	3	1	...	...	4
„ Jagat Bandhu Nág, Extra Assistant Commissioner, Sunámganj, Sylhet.	2	...	...	...	2
„ Ishán Chandra Patranavis, Extra Assistant Commissioner, Sylhet	11	...	...	...	11
„ Sarvánanda Dás, Extra Assistant Commissioner, Habiganj, Sylhet	3	...	...	...	3
„ Sambhu Náráyan Sinha, Extra Assistant Commissioner, Karimganj, Sylhet	3	...	...	...	3
„ Gauri Charan Dás, Extra Assistant Commissioner, Habiganj, Sylhet	1	1	1	...	3
„ Giris Chandra Nág, Sub-Deputy Collector, Maulvi Bázár, Sylhet.	3	...	...	...	3
„ Gopál Chandra Puri Bhuiyán, Sub-Deputy Collector, Sylhet ...	3	...	...	...	3
„ Purna Chandra Mitra, Sub-Deputy Collector, Karimganj ...	15	1	...	...	16

* Experiments in mustard were discontinued in 1889-90, as the results obtained up to that date were considered fairly reliable, but were started again in 1892-93 in consideration of its importance as a crop and the necessity of the quinquennial revision of the figures of outturn of all the principal crops prescribed by Circular No. 8—15, dated the 20th February 1892.

Name.	olus mungo Brahma vade t an Now		Mustard.	Miscellaneous crops.	Total.
Maulvi Muhammad Abdulla, Sub-Deputy Collector, Sunámganj, Sylhet			...	...	4
Babu Kási Chandra Guha, Sub-Registrar, Karimganj, Sylhet ...	5	...	...	...	5
„ Nibáran Chandra Mukherji, Tahsildár, Goálpára	17	...	...	...	17
„ Paramánanda Chaudhuri, „ Kámrúp	17	2	2	...	21
„ Gangá Rám Dás, „ „	11	...	...	4	15
„ Káli Rám Chaudhuri, „ „	6	1	1	...	8
„ Govinda Rám Chaudhuri, „ „	3	...	...	...	3
„ Banga Chandra Chaudhuri, „ „	6	...	...	...	6
„ Uday Chandra Baruá, „ „	5	...	1	3	9
„ Bansidhar Sarmá, „ „	4	1	1	...	6
„ Hareswar Datta, „ „	3	...	...	...	3
„ Rádhá Náth Baruá, „ „	2	...	...	...	2
„ Keshab Chandra Sinha, „ „	6	...	...	3	9
„ Ratna Kánta Baruá, „ „	2	1	2	...	5
Maulvi Muhammad Eunás Ali, „ „	8	6	...	...	14
Babu Syám Lál Chaudhuri, „ „	6	1	2	3	12
R. C. Hamilton, Esq., Assistant Commissioner, Tezpur	2	...	...	...	2
Babu Krishna Chandra Chaudhuri, Sub-Deputy Collector, Tezpur ...	...	3	...	...	3
„ Bhabáni Charan Sarma, Tahsildár, Darrang	2	...	...	...	2
„ Gangá Náth Sarmá, „ „	2	2	2	1	7
„ Babi Charan Sarmá, „ „	...	4	...	...	4
„ Sánti Rám Házáriká, „ Nowgong	6	2	3	3	14
„ Jayináth Saikiya, Acting, „ „	3	...	...	...	3
„ Chandra Kánta Baruá, „ „	1	1	...	...	2
„ Phanidhar Chaliha, Sub-Deputy Collector, Sibságar ...	2	1	...	...	3
„ Dámodhar Baruá, Tahsildár, Sibságar	3	...	...	...	3
Munshi Ázizar Rahmán, Extra Assistant Commissioner, Dibrugarh ...	1	...	...	...	1
„ Mashiat Ulla, Sub-Deputy Collector, Dibrugarh ...	8	2	...	...	10
Maulvi Muhammad Sádir, Sub-Deputy Collector, North Lakhimpur ...	2	...	...	...	2

N.B.—For explanation of the vernacular terms denoting the different species of crops where their English equivalents have not been given in this note, see paragraphs 3, 4, 5, and 6 of the Crop Note for 1889-90.

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Shillong,

15th June 1895.

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